

TECHNICAL DATA SHEET

Premium PETG Flame Retardant

Date of issue: 15-01-2025 / Date of update: 15-01-2025



Product specifications

Premium PETG Flame Retardant meets the UL 94 V0 standards. This is the highest flammability rating. Fire will extinguish within 10 seconds.

Premium PETG Flame Retardant maintains all advantages of PETG. It prints very easy and is suitable for both desktop and large format 3D printing. Its flame retardant properties make this an even more versatile filament. Printed parts provide a high level of safety in all kind of environments.

Important key features

- Designed to meet UL 94 V0 standards*.
- UV stabilized.
- Hydrolysis stabilized.
- HDT of 63 °C / Vicat of 70 °C.
- Halogen-free.

Suitable applications

- Housings for electrical equipment.
- Shielding for electrical circuits.
- 3D printing flame resistant end-use parts.
- Housings for lightning.
- Manufacturing electronic components.

** The filament meets the self-extinguishing flammability standards of UL 94 V0, but is not certified by Underwriters Laboratories and does not have a UL number.*

Recommended print settings

Nozzle temp: 225 - 270°C

Print speed: 25 - 100 mm/s

Drying: ≥12 hours at 65°C

Experience level: Beginner

Heat bed: 60 - 80°C

Nozzle: ≥ 0.15mm

Drybox: Not necessary

Fan speed: 75 - 100%

Buildplate adhesion: EasyFix Nr. 1

Enclosure: Not necessary

Material properties

Specific Gravity

Typical value

1.26 g/cm³

Test Method

ISO 1183

Mechanical properties

Tensile strength at yield (5mm/min)

40 MPa

ISO 527

Tensile strength at break (5mm/min)

25 MPa

ISO 527

Tensile elongation at yield (5mm/min)

3,3%

ISO 527

Tensile elongation at break (5mm/min)

40%

ISO 527

Elastic modulus (1 mm/min)

2350 MPa

ISO 527

Izod Notched Impact Strength (23°C)

3 kJ/m²

ISO 179-1eA

Thermal properties

HDT B (0.45mn/m²)

63°C

ISO 75

HDT B (1.81mn/m²)

58°C

ISO 75

Vicat softening temperature

70°C

ISO 306

Flammability properties

Fire Resistance (1.6mm)

V0

UL94V equivalent laboratory test

Oxygen index

35%

ASTM D 2863

Glow Wire Flammability Index @ 1mm

960°C

IEC 60695-2-12

Glow Wire Flammability Index @ 2mm

960°C

IEC 60695-2-12

Glow Wire Ignition Test @ 1mm

775°C

IEC 60695-2-13

Glow Wire Ignition Test @ 2mm

775°C

IEC 60695-2-13



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Electrical Properties

Comparative Tracking Index - solution A 600 V IEC 60114
(without surfactant)

Drying Recommendations

Premium PETG Flame Retardant is a moderate hygroscopic filament and therefore it is necessary to pre-dry the filament in a blast drying oven at below settings:

- Temperature: 65°C
- Duration: ≥12 hours

For optimal print results – especially for prints with long printing time – we recommend to print the pre-dried Premium PETG Flame Retardant filament from a drying box to avoid that the material can accumulate humidity from the environment. Filament with a too high moisture content will cause stinging during 3D printing.

Buildplate adhesion

For optimal buildplate adhesion we recommend to set your buildplate temperature at 60°C - 80°C and to use our EasyFix Adhesive – Nr. I.

Storage and handling

Filament should be stored at room temperature in a dry and dark place with humidity below 15%. Recommended storage temperature is ca. 18-25°C (64.4 -77.0°F). Keep out of moisture, sunlight and direct heat. When stored properly, product has a shelf life of 24 months. To obtain the best parameters of the printed object, it is recommended to dry the material prior to usage and to 3D print it directly from a dry box.

Product export information

HS Code	Description	Origin
39169090	Monofilament for 3D printing	European Union

Disclaimer

The product- and technical data provided in this datasheet is correct to the best of FormFutura BV's knowledge and are intended for reference and comparison purposes only. Actual values may vary according to printing conditions, model complexity, environmental conditions, etcetera. Typical values are indicative only and are not to be construed as being binding specifications. All other information supplied, including that herein, is considered accurate but is furnished upon the express condition that the customer shall make its own assessment to determine a product's suitability for a particular purpose. We make no warranty, express or implied, including regarding any information supplied or the data upon which it is based or the results to be obtained from the use of such products or information, or concerning product, whether of satisfactory quality, merchantability, fitness for any particular purpose or otherwise, or with respect to intellectual property infringement as a result of use of information or products, and none shall be implied.

